



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Memorandum

Subject: **INFORMATION**: Approval for Use of 82 UL  
Aviation Gasoline in Place of Automobile Gasoline

Date: **MAR 02 1999**

From: Manager, Small Airplane Directorate, ACE-100  
Manager, Engine and Propeller Directorate, ANE-100

Reply to  
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The Small Airplane and Engine and Propeller Directorates recently provided information to an applicant on the use of 82 UL gasoline (American Society for Testing and Materials (ASTM) specification D6227) in place of automobile gasoline (ASTM specifications D439 and D4814). The purpose of this memorandum is to provide this information to the Certification Offices for their use.

Airplanes and engines approved for use with D439 and/or D4814 fuels may operate with D6227 fuel without further substantiation; however, there is a restriction. Gasoline D6227 is a Grade 82 gasoline using the motor octane rating. Since the antiknock index is defined as the arithmetic average of the research octane number (RON) and the motor octane number (MON), a Grade 82 gasoline rated by the motor octane method is equivalent to an 87 antiknock index grade of gasoline. Considering ASTM specifications D439 and D4814 use the antiknock index, D6227 gasoline may not be used as a substitute for automobile gasoline approvals on engines and airplanes that require fuels with an antiknock index greater than 87.

If you have any questions or need additional information, feel free to contact Randy Griffith, Small Airplane Directorate, at 816-426-6941, or Mark Rumizen, Engine and Propeller Directorate, at 781-238-7113.



Michael Gallagher



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